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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,080	01/21/2005	Masahiro Tada	09792909-6091	6898

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EXAMINER

LE, THAO P

ART UNIT	PAPER NUMBER
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2818

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/522,080

Applicant(s)

TADA ET AL.

Examiner

Thao P. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2005, 29 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

This office action is in response to amendment and remarks made on 01/29/2009.

Claims 1-3 have been amended.

Claims 4-5 have been withdrawn. Applicant is suggested to cancel non-elected claims (claims 4-5).

Claim 6 has been newly added.

Specification has been amended to identify related application.

Drawings have been amended to correct the informalities.

The remarks are fully considered but found not persuasive. The amended claim 1 has not overcome the previous rejection. Answer to part C of remarks). AAPA discloses one or more protective film 105 (Fig. 12C) disposed on the first and support electrodes and end parts of vibrator electrode secured to the first and support electrode, a portion of each end part 106 overlying one of the protective film 105. Answer to parts D&E). Wang and Nguyen disclose one or more protective film (anchor) disposed on the first and support electrodes and end parts of vibrator electrode (resonator) secured to the first and support electrode, a portion of each end part of the resonator overlying one of the protective film (the anchor).

For the above reasons, it is believed that the rejections should be sustained. Feature of an invention not found in the claims can be given no patentable weight in distinguishing the claimed invention over the prior art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 6 are rejected under 35 USC 102 (e) as being anticipated by
Applicant Admitted Prior Art (AAPA) (Figs. 11, 12A-12C).**

Regarding claim 1, AAPA discloses a micromachine comprised of:

a substrate 101;

a first electrode 102b, a second electrode 102a, and a support electrode 102c disposed on a substrate (Fig. 11);

one or more protective films disposed on the first and support electrodes (105, Fig. 12C);

a band-shaped vibrator electrode (103a, Fig. 11) comprising (a) a vibrating part overlying said second electrode, the vibrating part being spaced apart from the second electrode with a gap therebetween (Fig. 12B) and (b) end parts secured to said

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first electrode and said support electrode, a portion of each end part overlying one of the protective film 105.

Regarding claim 6, AAPA discloses the first electrode is an input electrode and the second electrode is an output electrode.

Claims 1, 6 are rejected under 35 USC 102 (b) as being anticipated by Wang et al., "Q-enhancement Of Microelectromechanical Filters via Low-Velocity Spring coupling", submitted as IDS, hereinafter Wang.

Regarding claim 1, Wang discloses a micromachine comprised of:

- a substrate;

- a first electrode, a second electrode, and a support electrode disposed on a substrate (Fig. 5);

- one or more protective films disposed on the first and support electrodes (the anchor);

- a band-shaped vibrator electrode (resonator) comprising (a) a vibrating part overlying said second electrode, the vibrating part being spaced apart from the second electrode with a gap therebetween and (b) end parts secured to said first electrode and said support electrode, a portion of each end part overlying one of the protective film (anchor).

Regarding claim 6, Wang discloses the first electrode is an input electrode and the second electrode is an output electrode.

Claims 1, 3, 6 are rejected under 35 USC 102 (b) as being anticipated by Nguyen et al., U.S. Publication No. 20020021054, hereinafter Nguyen.

Regarding claim 1, Nguyen discloses a micromachine comprised of (See Figs. 6-10 and depending portions of specification):

a substrate;

a first electrode Vswitch, a second electrode Vi, and a support electrode (other side of Vi) disposed on a substrate (Fig. 6);

one or more protective films disposed on the first and support electrodes (the anchor);

a band-shaped vibrator electrode (resonator) comprising (a) a vibrating part overlying said second electrode, the vibrating part being spaced apart from the second electrode with a gap therebetween and (b) end parts secured to said first electrode and said support electrode, a portion of each end part overlying one of the protective film (anchor).

Regarding claim 3, Nguyen discloses the width of the end part of the vibrator electrode which end part is fixed to the first electrode is greater than the width of the first electrode (Fig. 6).

Regarding claim 6, Nguyen discloses the first electrode is an input electrode and the second electrode is an output electrode.

For more interest, other references cited in PTO-892 also disclose the imitations cited in independent claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3 rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al., "Q-enhancement Of Microelectromechanical Filters via Low-Velocity Spring coupling", submitted as IDS, hereinafter Wang.

Regarding claim 2, Wang doesn't disclose the vibrator electrode is formed of a material capable of being etched selectively without affecting a material formed of the first electrode. However, it is well known in the art that the material used for vibrator electrode or resonator is formed of material that has etch rate different from the first electrode in order to avoid damage of the first electrode while the vibrator electrode is being etched.

Regarding claim 3, Wang doesn't disclose the width of the end part of the vibrator electrode which end part is fixed to the input electrode is greater than width of the input electrode, however, the selection of such parameters such as **energy, concentration, temperature, time, molar fraction, depth, thickness, etc.**, would have been obvious and involve routine optimization which has been held to be within the level of ordinary skill in the art. "Normally, it is to be expected that a change in **energy, concentration, temperature, time, molar fraction, depth, thickness, etc.**, or in combination of the parameters would be an unpatentable modification. Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely degree from the results of the prior art ... such ranges are termed "critical ranges and the applicant has the burden of proving such criticality.... More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller* 105 USPQ233, 255 (CCPA 1955). See also *In re Waite* 77 USPQ 586 (CCPA 1948); *In re Scherl* 70 USPQ 204 (CCPA 1946); *In re Irmischer* 66 USPQ 314 (CCPA 1945); *In re Norman* 66 USPQ 308 (CCPA 1945); *In re Swenson* 56 USPQ 372 (CCPA 1942); *In re Sola* 25 USPQ 433 (CCPA 1935); *In re Dreyfus* 24 USPQ 52 (CCPA 1934).

Conclusion

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP '706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire **THREE MONTHS** from the date of this action. In the event a first response is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than **SIX MONTHS** from the date of this final action.

When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is (571) 272-1785. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. Other inquiries of this application should be called to (571) 272-1562 or the fax number (571)-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thao P. Le
Primary Examiner
April 20, 2007.